

Before the  
**Federal Communications Commission**  
Washington, D.C. 20554

In the Matter of	)	
	)	
Methods for Verifying Compliance With E911	)	ET Docket No. 99-300
Accuracy Standards	)	

To: Chief, Office of Engineering and Technology

**COMMENTS OF U S WEST WIRELESS, L.L.C.**

U S WEST Wireless, L.L.C. ("USWW") hereby files comments in response to the October 8, 1999 Public Notice in the above-referenced proceeding.<sup>1</sup> USWW supports the issuance of general OET and Bureau guidance to ensure that the equipment and software purchased by carriers will comply with the Commission's E-911 Phase II accuracy requirements. Consistent with the Commission's rules and its traditional approach to enforcement of carriers' E-911 deployment efforts, however, OET and the Bureau should embrace a manufacturer certification process and, in general, rely on industry-based standards and testing. The Commission should work with industry as part of the ongoing testing and product development process, and should not adopt rigid testing guidelines that may in fact undermine the development and deployment of various solutions.

---

<sup>1</sup> See Public Notice, *Information Sought on Methods for Verifying Compliance with E911 Accuracy Standards*, ET Docket No. 99-300, DA 99-2130 (rel. October 8, 1999) ("Public Notice").

## DISCUSSION

### I. MANUFACTURER CERTIFICATION OF ENHANCED 911 PHASE II TECHNOLOGIES IS A MORE APPROPRIATE MEANS OF FACILITATING PHASE II DEPLOYMENT

As USWW and other carriers have advised the Commission throughout this proceeding, carriers are highly dependent on their vendors to obtain commercially available products that provide the E-911 capabilities required under the Commission's rules. Based on the informal estimate of one USWW vendor, carriers will be unable to perform first office application testing with new ALI-capable handsets and upgraded ALI-capable infrastructure for purposes of conducting end-to-end testing until 2Q2001, with commercially available products available 3Q2001. As discussed below, extensive testing will occur prior to the commercial availability of Phase II ALI solutions; therefore, imposing additional post-production and post-acquisition requirements on carriers would be redundant.

Carriers will not purchase and deploy an E-911 Phase II solution that does not meet the accuracy and reliability requirements of the Commission's rules *at the time of purchase*. Vendors themselves perform extensive laboratory interoperability testing, which carriers (including USWW) review; subsequently, based on this testing, manufacturers and carriers conduct first office application ("FOA") trials. It is at this early point in the testing process that USWW (and other carriers) would require that a vendor certify/warrant that a product complies with the Commission's rules. Furthermore, USWW, as a standard course of business with any new product or feature, will review vendor interoperability test results and perform its own field testing, gathering pertinent data in test locations throughout its service area which are

representative of customer use (*e.g.*, offices, highways, pedestrian, homes, *etc.*), prior to product acceptance.

Thus, carriers will necessarily require manufacturers to produce test results which demonstrate Phase II-compliant equipment -- and to certify or warrant as to such compliance. Given that vendors and carriers will perform extensive pre-deployment testing to ensure compliance, it is unnecessary for OET and the Bureau to mandate post-production and post-acquisition procedures.

Similarly, manufacturers also need assurance that they are producing compliant equipment. Product development and deployment activities will necessarily require E-911 testing and verification processes. As demonstrated above, carriers will be part of that process and will, for their part, also perform product acceptance testing as a condition of purchase. Again, equipment and software *should* be tested rigorously to ensure compliance with the Commission's rules, but qualifications testing conducted pursuant to elaborate industry-based protocols should be conducted primarily by manufacturers with cooperation by carriers. Carriers themselves will require that vendors certify as to the compliance of their products prior to commercial availability, thus providing carriers with the certainty necessary to rapidly acquire and deploy Phase II-compliant capabilities.

For this reason, USWW recommends that OET and the Bureau embrace a more "front-loaded" testing process for E-911 Phase II solutions. Similar to the RF emissions provisions of the equipment authorization rules, manufacturers would certify that their products comply with

the Phase II accuracy and reliability rules.<sup>2</sup> Manufacturers could submit testing data and methodologies to ensure compliance with the Commission's rules and consistency with any OET/Bureau guidelines. In turn, carriers and consumers would have some assurance that the technologies deployed in the marketplace have been tested to ensure compliance. This will assist in the expeditious deployment of Phase II services.

## **II. PHASE II ALI SOLUTION TESTING WILL BE UNDERTAKEN PRIOR TO COMMERCIAL AVAILABILITY**

Testing guidelines should supplement -- not undermine -- industry efforts to develop and test E-911 Phase II solutions. This industry process is ongoing and rigid guidelines at this early date would be counterproductive. USWW continues to meet with its vendors on an ongoing basis regarding the development of E-911 Phase II-compliant handset and infrastructure features. USWW has also repeatedly demonstrated its willingness to participate in vendors' testing and development efforts and, indeed, participated in the King County trial. USWW also collected location data in cooperation with solution vendor SnapTrack, and demonstrated connectivity with PSAPs for the City of Denver and Adams County, Colorado. Furthermore, industry is moving forward with testing methodologies. For example, the CDMA Development Group ("CDG") has developed a Test Plan Document for Location Determination Technologies Evaluation which, with modifications, could serve as a model for testing the reliability and

---

<sup>2</sup> See 47 C.F.R. Part 2, Subpart J; *id.* § 2.1091(c) ("Applications for equipment authorization of mobile and unlicensed transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application.").

accuracy of Phase II solutions. This test plan is of particular importance to USWW, as it has deployed CDMA technology in its systems.

Again, Commission reliance on industry-based testing procedures is both appropriate and consistent with its approach toward E-911 deployment. While USWW agrees with the Commission's conclusion in the *Third Report and Order* that broad guidance from OET and the Bureau is appropriate to help ensure that various testing protocols are consistent with the Commission's rules, it is concerned that the Public Notice apparently anticipates elaborate extensive post-production and post-acquisition testing of Phase II technologies.<sup>3</sup> This is inappropriate.

### III. ISSUES RAISED IN PUBLIC NOTICE

OET and the Bureau seek comment on "[m]ajor issues in the design of compliance testing procedures" for E-911 Phase II accuracy and reliability. USWW's comments on these issues to some extent reflect preliminary information gathered in consultation with vendors and industry-based groups. As noted above, however, many of the "issues" raised in the Public Notice imply that individual carriers themselves will conduct extensive testing in the field. USWW submits that the testing procedures discussed below should instead be conducted primarily by manufacturers with carrier cooperation, as part of a technology-qualifications process, and not by carriers after deployment.

---

<sup>3</sup> See Public Notice at 2 (inquiring "[h]ow many measurements must be made within a carrier's service area to ensure statistical confidence" and whether test procedures should "include the entire advertised coverage area of a wireless service provider.").

**A. Statistical Considerations**

USWW submits that the testing method and the number of points sampled should provide a reasonable statistical confidence of accuracy. Call locations should be based on different environments representative of a particular carrier's service area. In addition, no one statistical error model can be used for all scenarios; vendors and carriers will need flexibility to develop statistical models. No special considerations should be introduced to handle outliers.

**B. Choice of Measurement Locations**

As an important threshold matter, if a call cannot be completed at a particular test location, that location should *not* be considered as part of the statistics. Testing locations should be chosen in terms of specific RF environments, primarily in terms of reception environments (*e.g.* urban canyons, suburban, rural, highway, indoors, etc.). As noted above, testing over a carrier's entire coverage area is unrealistic. Vertical accuracy should not be factored into calculating accuracy, as it is not part of the Phase II ALI rules.

**C. Measurement Techniques**

Different environments (*e.g.* suburban/rural/urban, indoors/outdoors, *etc.*) must be weighted *differently* by manufacturers to accurately reflect different factors. A maximum time to obtain a location fix may also be appropriate. Testing procedures should also acknowledge multiple fixes. A number of techniques exist to measure the distance between actual and measured location, including differential GPS, conventional GPS with time averaging, or a rolling measurement wheel. Finally, OET and the Bureau should confirm that vendors should have the flexibility to use their own predictive models, subject to standard field testing and validation procedures.

**CONCLUSION**

USWW requests that OET and the Bureau issue broad guidelines for industry-based testing, but that it confirm that industry developed protocols will suffice for determining the accuracy and reliability of E-911 Phase II technologies.

Respectfully submitted,

**U S WEST WIRELESS, L.L.C.**

By:

  
Jeff Brueggeman  
Senior Attorney  
U S WEST, INC.  
1801 California Street  
Denver, CO 80202  
(303) 672-2799

*Its Attorney*

October 29, 1999